Introduction to Benefits Reporting and ARFVTP Status Report

IEPR Workshop on Metrics and Benefits for the Alternative and Renewable Fuel and Vehicle Technology Program

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ARFVTP Statutory Direction

Purpose

To **transform** California's transportation market into a diverse collection of alternative fuels and technologies and reduce California's dependence on petroleum.

*"…**develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies."*** (Health and Safety Code Section 44272(a))

- Market Transformation with Incentive Funding does not mean full government financing of AB 32 compliance

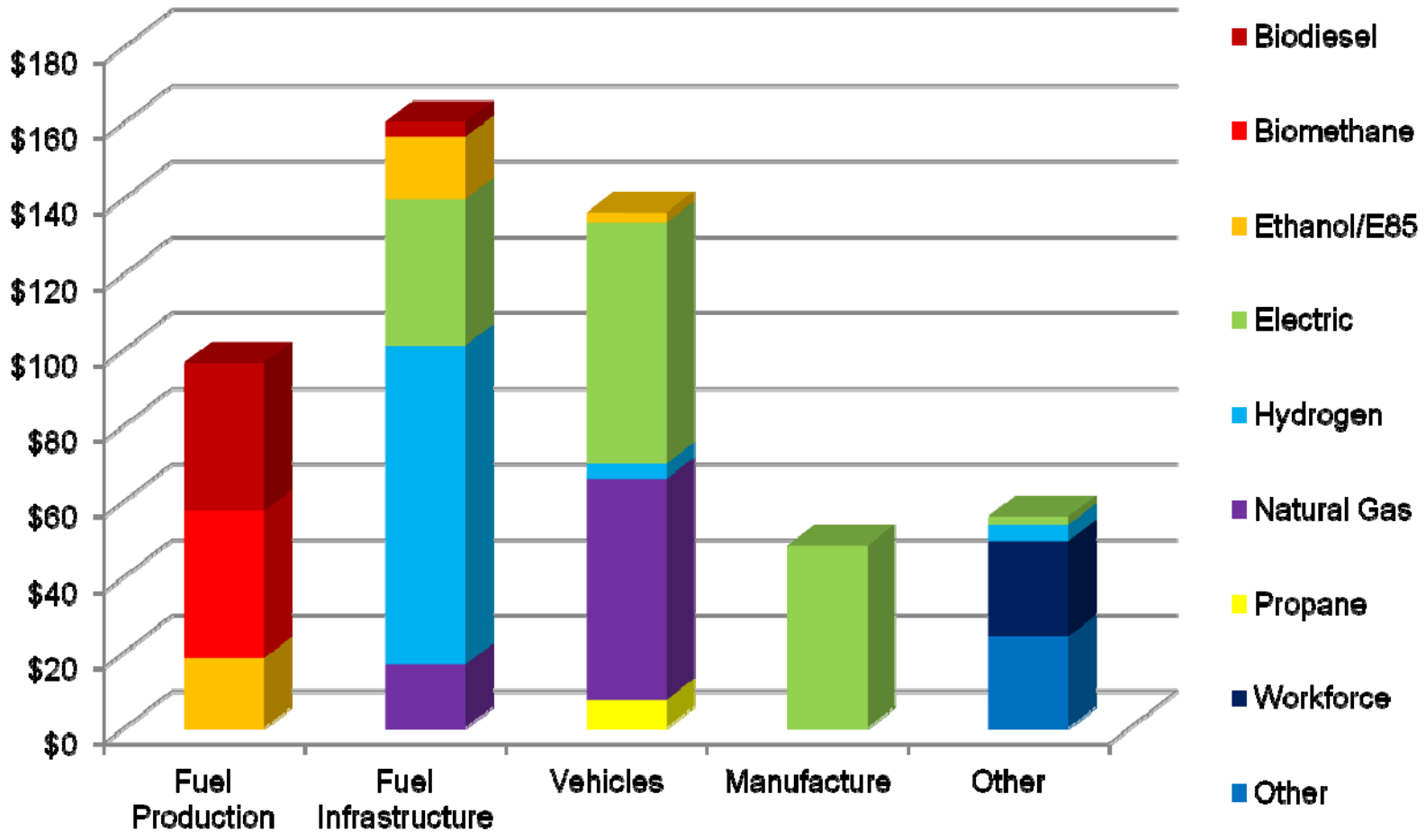
Program Policy Drivers

Policy Objectives	Policy Origin	Goals and Milestones
GHG Reduction	AB 32, California Global Warming Solutions Act	Reduce GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050 in California
Petroleum Reduction	California *State Alternative Fuels Plan*	Reduce petroleum fuel use to 15% below 2003 levels by 2020 in California
In-State Biofuels Production	California *Bioenergy Action Plan*	Produce in California 20 percent of biofuels used in state by 2010, 40 percent by 2020, and 75 percent by 2050
Low Carbon Fuel Standard	AB 32	10% reduction in carbon intensity of transportation fuels in California by 2020
RFS2	Energy Policy Act of 2005, Energy Independence and Security Act of 2007	36 billion Gallons of renewable fuel by 2022
Air Quality	Clean Air Act	80 percent reduction in NOx from current levels by 2023
ZEV Mandate	California Executive Order B-16-2012	Accommodate 1 M EVs by 2020 and 1.5 M by 2025 in California

Funding Summary: 2009-2014

Investment Areas	Funding Amount (millions)	Percent of Total (%)	Number of Awards
Biofuels	$119.5	24	45
Electric Drive	$152.7	31	120
Natural Gas/Propane	$82.3	16	55
Hydrogen	$92.6	19	26
Workforce Development	$25.2	5	30
Market and Program Development	$24.1	5	36
Total	**$496.4**	**100**	**312**

Existing Agreements



Electric Vehicle Support

Total EVSE Funding: $38.2 million

Total Funded = 8,646 chargers

- Commercial = 3,901
- Residential = 3,882
- Workplace = 756
- DC Fast = 107

Plus 10 Regional Readiness Planning Grants = $2.0 M

Total CVRP Support:

= $49 million

- Over 21,000 vouchers

Hydrogen Station Funding

Funding to Date = $90 million

Public Station Funding

45 New Stations = $72.7 million

3 Station Upgrades = $6.7 million

4 Station O&M Grants = $1.2 million

1 Mobile Refueler = $0.9 million

Other Funding Activities

AC Transit Fuel Cell Bus Station = $3 million

CDFA Div of Weights and Measures = $4 million

Retail Dispensing Fuel Standards

UC Irvine STREET Model = $1.5 million

GoBiz Ombudsman Support

ARFVTP Truck Sector-Related Funding

About 30 Percent of Total Program Funding

Technology	Funding ($ Millions)	No. of Vehicles, Fueling Stations or Projects
Commercial Natural Gas Trucks	48.5	2,339 Trucks
Natural Gas Infrastructure	17.5	62 Stations
Commercial Propane Trucks	7.3	600 Trucks
Commercial ZEV Trucks (Class 6 package delivery)	4	160 Trucks
Advanced Technology Truck Demonstration or Manufacturing	70.4	36 Projects
Total Funding	**147.7**	

Biofuels Funding

Category	Funding ($ millions)	No. of Projects
Fuel Production		
Biogas	38.9	12
Biodiesel / Renewable Diesel	34.1	13
Ethanol	18.4	8
Total Fuel Production	**91.4**	**33**
Fueling Infrastructure		
Biodiesel Tankage	4.0	4
E85 Retail Stations	16.5	205
Total Infrastructure	**20.5**	**209**

AB 109 Statutory Requirements (Núñez, Chapter 313, Statutes of 2008)

Energy Commission to Evaluate and Report on Expected Benefits of ARFVTP Investments in Each IEPR Cycle:

- List of funded projects
- Expected benefits
  - Petroleum reduction
  - GHG emissions reductions
  - Criteria emissions reductions
  - Public Health Benefits (added by Commission)
  - Job creation and Workforce (added by Commission)

Benefits Report History

2011 – First Benefits Report

- Energy Commission Staff Report
- Assess technology pathway market growth to 2020
- Evaluated 86 projects totaling $197 million

2013 – First NREL Draft Benefits Guidance Report

- More formal methods for Expected Benefits and Market Growth calculations
- Analyze benefits through 2025
- Evaluated 147 project totaling $292 million

2014 – Benefits Report Update

- Capture projects funded from July 2013 and March 2014

Key Questions and Next Steps for Benefits Report Information

- How to measure and communicate market transformation benefits of ARFVTP investments?
- Are there other metrics that should be included in the program benefits report, and for what purpose?
  - Job training and job creation will be added
  - Public health benefits will be added
  - Others?